The Garden Spade

July 2019

"Reliable, Responsive and Relevant Information for the Missouri Gardener"

Wet Spring Adds Importance to Side-dressing

David Trinklein, MU Extension State Floriculture Specialist

The term "side-dressing" is not widely used outside of the gardening world. I strongly suspect that nine out of ten people randomly stopped in a public setting would have no idea what it means. To gardeners, however, the term is quite familiar and refers to the practice of placing fertilizer in a band along-side rows of plants, or around the perimeter of individual plants in an attempt to boost lagging soil fertility.

The extremely wet spring we have experienced in Missouri has reduced the fertility level of garden soils due to nutrient leaching. Additionally, our garden plants remove nutrients from the soil as they grow. There are several ways to counter this reduction in soil nutrients and to maintain better plant growth throughout the coming summer. Side-dressing is one of the solutions to the problem and can give garden plants a needed boost in growth and productivity.

One of the fertilizer elements that quickly is leached from the soil but also is very critical for good plant growth is nitrogen. Side-dressing with a nitrogen fertilizer or a complete fertilizer high in nitrogen usually is beneficial about four to six weeks after planting. Ammonium nitrate, urea, ammonium sulfate and calcium nitrate contain high levels of nitrogen and are often used for the purpose of side-dressing. If these fertilizers are not available, a complete fertilizer high in nitrogen can be used. Beware of lawn fertilizers, however. Most are high in nitrogen but may be "weed and feed" in formulation. The herbicides contained by the latter should not be applied to garden plants.

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As mentioned above, side-dressings are normally applied close to the soil surface. The soluble forms of nitrogen found in compounds such as ammonium nitrate or urea move into the root zone easily as a result of rainfall or irrigation. If mulch has been applied, pull it back and apply the side-dressing beneath it along the row. Push the mulch back into its original place after the fertilizer has been applied. Ammonium nitrate and similar fertilizers are applied at a rate of about one pound per 100 feet of row (or 100 square feet of bed area). Side-dressings should be placed at least six inches away from the main plant stem to avoid burning. A strip along each side of the row is considered ideal. If the planting has not been mulched, incorporate the fertilizer application lightly into the soil with a garden hoe or rake. Garden fertilizers lower in nitrogen (e.g. 12-12-12) should be applied at about three pounds of fertilizer per 100 feet of row or square footage of bed.

Another method to avoid nutritional problems caused by leaching involves the use of slow (or timed) release fertilizers. As their name implies, slow release fertilizers release the nutrients they contain over time, making it possible to fertilize only once during the growing season.

The most popular slow release fertilizers used today release their nutrients by osmotic action in resin-coated types, or by bacterial action in organic types. Although the initial cost of some of these slow-release materials might be higher, the need for extra labor is eliminated. Slow-release fertilizers vary greatly in analysis, rate of release and use. Some are formulated to be effective for several weeks to months; others last for an entire growing season. Read and follow label directions carefully when using slow-release fertilizers. Using excessive amounts can lead to soluble salts injury, since there is no way to leach slow-release fertilizers from the soil.

The following table lists general recommendations for the timing of side-dress applications to popular garden vegetables:

Asparagus	Before new growth begins in spring or after
Cabbage, cauliflower, broccoli	Three weeks after transplanting
Carrots, beets, turnips, parsnips and lettuce	Side-dressing normally not needed if soil is fertilized adequately before planting
Cucumber, cantaloupe, pumpkin	One week after blooming begins; repeat three weeks later
Onions (mature)	Two to four weeks after planting
Peas, beans	After heavy blooming and pod set
Peppers, eggplants	After first fruit sets
Potato (Irish)	When plants are 4 to 6 inches tall
Spinach, kale, mustard, and greens	When plants are about one-third grown
Sweet corn	When plants are 8 to 10 inches tall,; again one week after tasseling
Sweet potatoes, watermelons, herbs	Side-dressing not recommended. Excessive amounts of nitrogen will reduce yields or lower quality, or both
Tomato	When plants begin to set fruits; repeat every

Table credit: Gregg Eyestone, Kansas State University Extension

Blood meal and cottonseed meal are among organic slow release choices that are good source of nitrogen for side-dressing. The nitrogen content for blood meal is about 12 percent while that of cottonseed meal is about seven percent. Therefore, one would side-dress with blood meal at the rate of about two pounds per 100 feet of row, while cottonseed meal should be applied at about three pounds per 100 feet of row (or 100 square feet of bed area).

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July Gardening Calendar

Donna Aufdenberg, MU Extension Field Specialist in Horticulture

Outdoor Flowering Plants and Ornamentals

- Perennials that have finished blooming should be deadheaded especially if reseeding is not desired. Cut back foliage to encourage a tidier appearance.
- Remove any infected foliage from rose plants, pick up fallen leaves and continue fungicidal sprays as needed. Watch for any unusual growth that might indicate rose rosette disease.
- Newly planted trees and shrubs should continue to be watered thoroughly at least once a week if regular rains are not occurring.
- Deadhead spent annual flowers for continued bloom. Keep fertilizing them at least once a week to keep plants looking their best.
- Apply no fertilizers to trees and shrubs after July 4th.
- Plant zinnia, cosmos, and cleome seed by July 4th for late bloom in annual planters and borders.
- Do not pinch mums after mid-July or you may delay flowering.
- Monitor trees and shrubs for Japanese beetles. Your local extension agent can give current control recommendations.

Vegetable Gardening

- Blossom-end rot of tomato and peppers occurs when soil moisture is irregular or uneven. Irrigate regularly during dry weather and try to mulch sufficiently around vegetable plants to conserve the moisture.
- Dig potatoes when tops die and pull onions when tops fall over and start to turn brown. Dry in a ventilated area and store in cool and dry place.
- Make successive plantings of beets, beans, cucumbers and carrots to be able to harvest into fall.

Fruits and Nuts

- Prune out and destroy old fruiting canes of raspberries after harvest is complete. Watch for diseased canes and plants.
- Blackberries are starting to ripen. Get ready for picking!!
- After harvesting your strawberries, remove excess runners and any unhealthy runners.
- Keep an eye on peach trees for brown rot. Keep trees sprayed to keep disease and insects at bay.

Lawns

- Water grass frequently enough to prevent wilting. Early morning irrigation allows turf to dry before nightfall and will reduce the chance of disease.
- Keep weeds from making seeds now. This will mean less weeding and spraying next year.

What can you do with Hornworms?

Allow them to feed until their heart is content and they will turn into a beautiful hawk or spinx moth. You might not have too many tomato plants left!

Pick worms off and destroy them.

Spray worms with insecticide.

Feed worms to the chickens.

Use worms for fishing bait. Fish like them!

Scare your neighbors!

Practice your favorite torture technique.

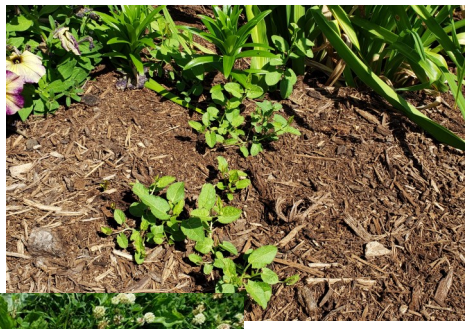
Capture worms, feed them and let them pupate into a sphinx moth indoors

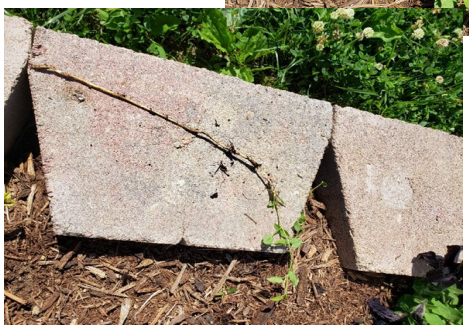
Eat them - There are actually recipes on how to fix them.

Vining Weeds

Katie Kammler, MU Extension Field Specialist in Horticulture

Weeds are always a problem in the garden but a vining growth habit offers even more challenges. We are going to talk about identifying some common vining weeds and some control measures.





Top picture: Bindweed in a flowerbed. Left picture: Root of the bindweed.

Bindweed/buckwheat/morning glory—all three of these weeds are similar herbaceous climbing vines. There are several types of bindweed found in Missouri and they are perennials that reproduce by seed and rhizomes. The blooms are similar to morning glories and are white to pink. Wild buckwheat is an annual vine that reproduces by seed with heart shaped leaves. The flowers are inconspicuous, greenish-white, and clustered along the stems. Morning glory are summer annuals with either heart-shaped or three-lobed leaves and tube shaped flowers in shades of pink, purple, and white. The annuals are easier to control because pulling is effective. The perennial bindweed is harder because it is impossible to get all of the root. I pull it out of our office flowerbed every week because it was in the soil used to make the raised bed. Selective herbicide treatments can be effective but may need to be applied with a paintbrush to avoid desirable plants.

Japanese Honeysuckle

Winter creeper—a perennial evergreen that is invasive. It is commonly planted in landscapes and then escapes. It will climb or cover the ground, strangling out whatever it covers. It reproduces by seed and vegetatively from the roots. Tolerates a wide variety of soil conditions as well as full sun to heavy shade. Pulling by hand or cutting and treating with a concentrated herbicide on the cut areas can be effective. They can also be infested with euonymus scale that can lead to the decline of the plant. https://mdc.mo.gov/sites/default/files/downloads/WinterCreeper.pdf

Japanese Honeysuckle—a vining deciduous to semi-evergreen perennial vine. Spreads by seeds and rapidly growing runners that root at the nodes. It is an invasive introduced from Asia. It can engulf and strangle out trees and other desirable plantings. Mowing, grazing, prescribed burning, and herbicides can help control it. https://mdc.mo.gov/sites/default/files/downloads/japanesehoneysuckle.pdf

Poison Ivy

Poison ivy—a deciduous woody vine with three leaflets. Dreaded in the landscape because it typically causes an itchy rash in most people. All parts of the plant can cause a rash, even in the winter. It spreads by seed, creeping rootstocks, and stems that root where they contact the soil. It is native plant with benefits to wildlife.

Cultural controls such as handpulling, grubbing, or hoe are difficult but can work with small infestations. Always remember to avoid contact with the plant by

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At a Glance: Sweet Basil

Donna Aufdenberg, MU Extension Field Specialist in Horticulture

Sweet Basil (*Ocimum basilicum*)

Uses: Culinary; Ornamental; Pollinator plants;

Type: Tender Annual quickly killed by frost. Temperatures below 50 degrees F can blacken leaves and stunt growth.

Size: Grows 24 inches tall and 18 to 24 inches wide. Light: Full sun to partial shade

Soil: Rich, moist but well-drained

Harvest notes: harvest leaves before blooms and keep bloom spikes pinched off as the season progresses. Blooms spikes will get faster at coming so reseeding basil mid-season may be needed. Harvest early morning before the heat of the day.

How to use it: many different variations of sweet basil. Add fresh, frozen, or dried to pasta and pizza sauces, herb seasoning blends, Mediterranean and Thai foods.

Common Varieties: Genovese, Spicy Globe, Dark Opal, Cinnamon, Lemon, Lime, Thai, and many others

Easy Basil Pesto

3 cups fresh basil leaves (packed)
2 cloves garlic, peeled
2 tablespoons pine nuts
¼ teaspoon salt
½ cup extra virgin olive oil
¼ cup parmesan cheese

In a blender or food processor, add garlic, pine nuts and salt; add basil leaves; using pulse technique, turning on and off, to shred the basil. With the machine on, drizzle in the olive oil to create a coarse mash. Add the parmesan cheese and pulse to combine. Makes approximately 1 cup.

Recipe from University Michigan

Native Plant of the Month:
Silky Dogwood
Cornus amonum subsp. *obliqua*

Deciduous shrub, also known as swamp dogwood

Height: up to 9 feet

Flower: White in open, flat inflorescences

Bloom time: May to July

Comments: Found in wet areas statewide. Opposite leaves that are narrower than on other shrubby dogwood. Light blue fruit. The Latin name *Cornus* means "horn" after the hardness of the wood and *amonum* means without harm, alluding to the plant's use as an antidote.

Information sources: Trees of Missouri by Don Kurz and Missouri Wildflowers by Edgar Denison

Top picture courtesy http://www.illinoiswildflowers.info/trees/plants/sw_dogwood.html & bottom picture http://www.kansasnativeplants.com/guide/plant_detail.php?plnt_id=275

Pressing Flowers

Donna Aufdenberg, MU Extension Field Specialist in Horticulture

Pressing flower is an old art of preserving flowers suitable for flower pictures, decorating notepaper, place cards, bookmarks and many other items.

What do you need for pressing flowers?

- Flowers in prime condition. Consider using flowers at different stages of development for more variety in design. Avoid plants with fleshy stems and leaves, as well as flowers with very thin petals. Flowers that are flat, such as pansies, press best.
- Porous paper: coloring books, telephone books, tissue paper, facial tissue without lotion. This will help to wick away moisture from petals and leaves to aid in drying.
- Flower Press or thick heavy books.

Methods for pressing

The faster flowers dry, the better they retain color. On the other hand, flowers cannot be exposed to excessively high temperatures; although they may dry quickly, they will turn brown. Pressing requires sandwiching flowers and foliage between layers of a porous, absorbent material. The material should be clean and hold the flowers firmly and flat during the drying process.

Flowers are placed between sheets of paper, such as newspapers, old telephone directories or catalogs. Absorbent facial tissues can be placed on the pages for moisture absorption. Position the flowers and tissues in the folded newspapers or books, and then stack them several layers deep. Place boards beneath and on top of the stack. Put the stack in a warm, dry place with a heavy weight on top. After the first week, remove tissues and papers and place flowers or foliage between fresh, dry tissues and papers.

If large numbers of flowers are being pressed, write the date on the stacks to keep track of drying time. Flower presses can be purchased or built for drying large quantities of materials.

Photos: A. Small Flower Press with flowers ready to press; B. Flowers and leaves dried last summer; C. Note card, decorative tag and bookmark made from dried flowers.

For more information, see MU Guide G6540 Drying Flowers and Foliage for Arrangements https://extension2.missouri.edu/g6540

Flowers Suitable For Pressing

Ageratum	Alyssum	Azalea	Bleeding Heart	Butterfly weed
Celosia	Chrysanthemum	Columbine	Cosmos	Daffodil
Daisy	Delphinium	Geranium	Hydrangea	Larkspur
Lily of the Valley	Marigold	Pansy	Phlox	Rose
Salvia	Statice	Sweet Pea	Verbena	Zinnia

Upcoming Events

July 2019

8 Southern Illinois Summer Twilight Series at Mileur Orchard in Murphysboro, Illinois. Free program to anyone wanting to learn more about fruit production. Pre-registration is requested online at http://web.extension.illinois.edu/ghhpsw/ no later than July 5. For more information, contact Nathan Johanning at 618-687-1727.

11-14 Ste. Genevieve County Fair, Ste. Genevieve, MO

11 Hightunnel Workshop from 1 to 4 pm at the 4-H building at the Ripley County Fairgrounds in Doniphan followed by a high tunnel tour. Register by calling Jamie at 417-778-7490.

12 Growing Blackberries Production and Sales in Missouri, 1 to 5 pm in Cuba, MO. To register: $10 registration per attendee. Contact the Crawford County Extension office at 573-775-2135; http://extension.missouri.edu/calendar/DisplaySingleEvent.aspx?E=347036&S=1

29-Aug 3 St. Francois County Fair, Farmington, MO

Flowers always make people better, happier, and more helpful; they are sunshine, food and medicine for the soul.

~ Luther Burbank

Click on blue underlined link to be taken to a corresponding website...

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Continued from page 2 Plants are good indicators of their nutritional status. Therefore, watch how plants grow to gauge their need for additional fertilizer. Response to nitrogen sources normally occur within about one week, given soil moisture is adequate. Thus, applications can easily be made at the time growth seems to be slowing. Applying excessive fertilizer (especially nitrogen) can be counterproductive. For example, tomato should not be over-fertilized with nitrogen early in the life of the plant. The result will be lush vegetative growth and poor fruit set. Additionally, blossom-end rot problems may increase later. Instead, wait until plants begin setting fruits before applying additional nitrogen.

Avoid applying excess nitrogen to flowering annuals, especially those that are not flowering. The result is likely to be lush vegetative growth and poor, delayed flowering. However, many species of flowering annuals (e.g., petunia) benefit from side-dressing with nitrogen every six to eight weeks during the growing season. The same compounds recommended for vegetables can be used on flowering annuals.

Vining Weeds

Katie Kammler, MU Extension Field Specialist in Horticulture

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wearing disposable gloves and clothing that covers all bare skin. Chemical control is my preferred method because I do not want to come into actual contact with the plant! There are a variety of herbicides on the market that are effective at controlling poison ivy but always remember to read the label to determine which option is right for your situation. Also, keep in mind that poison ivy is a woody perennial so it may take several applications to achieve control.

Creeping Charlie-- A herbaceous perennial plant that spreads by seed and stolons. It was introduced to North America by early settlers as a good groundcover for the shade. It thrives in moist, shady spots under trees and shrubs and along the north sides of buildings. Pruning trees to decrease shade and improving water drainage can help control its spread. Dense turf can also out compete creeping Charlie. Pulling the plant by hand is difficult because if you do not get it all, the stolons will re-root and continue to spread. Herbicide options for control in lawns include the active ingredient triclopyr. There are no chemical recommendations for it in a flowerbed or vegetable garden.

Creeping Charlie

Dayflower-- A monocot annual that reseeds itself. It has alternate, fleshy, wide leaves and the base of each leaf clasps the stem. It has distinctive blue flowers with three petals. It blooms from June to October. Hand weeding is effective if you can get the whole plant. It can root from the nodes though so make sure to discard pulled plants. Also, if you can get to it before it blooms, you are reducing the amount of seeds in the soil seed bank. It can not tolerate mowing so isn't usually found in lawns. It likes moist, rich soil and shade. Cultivation is also an option. There are few herbicides that effectively control Asiatic dayflower because of the waxy coating on the leaves. It is edible so that is an option for revenge if you find it growing in your garden!

Dayflower

The Garden Spade

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Each month there is a title picture on the front cover of the newsletter. This month: Orange Asiatic Lily